

CLAIMS

1. A light emitting element comprising: a box-shaped case formed out of an insulating material and having a hollow portion inside; a lead frame formed out of a conductive material and fixed in the case; and a light emitting chip fixed on the lead frame, wherein the lead frame has a rise portion formed so as to be located inside a side wall of the case.

2. The light emitting element according to claim 1,
wherein the rise portion is formed by bending both side edges of the lead frame.

3. The light emitting element according to claim 1,
wherein the lead frame comprises a first lead frame on which the light emitting chip is fixed and a second lead frame connected to the light emitting chip by wire bonding,
and wherein the rise portion is formed at least on the first lead frame.

4. A light emitting element comprising: a box-shaped case formed out of an insulating material and having a hollow portion inside; a lead frame formed out of a conductive material and fixed in the case; and a light emitting chip fixed on the lead frame, wherein the lead frame has a rise portion formed along an inner surface of a side wall of the case.

5. The light emitting element according to claim 4,
wherein the hollow portion is surrounded by four side walls, and wherein the rise

portion is formed along at least three of the side walls.

6. The light emitting element according to claim 5,
wherein the rise portion is formed by bending both side edges of the lead frame and an
5 end edge thereof orthogonal to the side edges.

7. The light emitting element according to claim 5,
wherein the lead frame comprises a first lead frame on which the light emitting chip is
fixed and a second lead frame connected to the light emitting chip by wire bonding,
10 and wherein the rise portion is formed at least on the first lead frame.

8. The light emitting element according to claim 7,
wherein the second lead frame has a rise portion formed so as to cover a side wall
other than the side walls covered by the rise portion of the first lead frame.

15 9. A light emitting element comprising: a box-shaped case formed out of an
insulating material and having a hollow portion inside; a first lead frame and a second
lead frame formed out of a conductive material and fixed in the case so as to face the
hollow portion; and a light emitting chip fixed on the first lead frame, wherein the first
20 lead frame has a rise portion formed so as to stretch over two opposite side walls of
four side walls surrounding the hollow portion, wherein the second lead frame
overlaps the first lead frame with a vertical gap left therebetween, and wherein the
second lead frame is connected to the light emitting chip by wire bonding.

10. The light emitting element according to claim 9,
wherein the second lead frame is arranged above the first lead frame.

11. A light emitting element comprising: a case formed out of an insulating material
5 and having a hollow portion formed inside so as to have a cross section so tapered as
to widen upward; a first lead and a second lead each having one end arranged on a
bottom surface of the hollow portion and another end protruding out of the case; a
light emitting chip fixed on the first lead and connected to the second lead by wire
bonding in the hollow portion; and a reflecting frame formed out of a metal and fixed
10 on an inner circumferential surface of the hollow portion with a small distance left
from the first and second leads so as not to short-circuit the first and second leads.

12. The light emitting element according to claim 11,
wherein a plurality of light emitting chips are arranged in the hollow portion, and the
15 first and second leads are arranged in same numbers as the light emitting chips.

13. The light emitting element according to any of claims 11 and 12,
wherein a concave portion for receiving a lead is formed on an outer bottom surface of
the case, and wherein portions of the first and second leads that protrude out of the
20 case are bent into the concave portion.